

REMARKS

This is in response to the Office Action mailed on October 14, 2005, and the references cited therewith.

No claims are amended. Claims 1-62 are pending in this application.

§112 Rejection of the Claims

Claims 13, 30 and 57 were rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This application is respectfully traversed. The equation is set forth in line 4 of the claim. It is referred to as an equation. The terms objected to by the Office Action are merely part of a rearrangement an arrangement of enriched data into a max-min-max pattern. The data in the first pattern by definition should be equal to the data in the second pattern, but simply rearranged as shown at lines 8 and 9 of the claims. The subscript "A" is simply a numerical limit for the variable "i", and is not explicitly defined, since it depends on the amount of enriched data added for any specific enrichment of sparse data.

§102 Rejection of the Claims

Claims 1, 3-11, 15, 18-28 and 32 were rejected under 35 USC § 102(b) as being anticipated by Gorp et al., "An Interpolation Technique for Learning with Sparse Data", 2000. This rejection is respectfully traversed.

Claim 1 recites enriching the received data around a deviation of the mean of the received data using a predetermined distribution. This element is not believed shown or suggested by Gorp et al. Gorp et al. describes an interpolation technique, which is very different in that it divides sampled data to be enriched into a fine grid and then interpolates data within linear sections in the fine grid. This is described on page 3/10, starting at the last paragraph in the first column. An example in Gorp et al., is provided starting in the second column of page 4/10. As seen in Fig. 1, a sine wave is sampled and broken into local-linear sections in Fig. 2. and Fig. 3. Data is then created by interpolating within the sections as shown in Fig. 4. The process of Gorp

et al., does not utilize the claimed “enriching the received data around a deviation of the mean of the received data using a predetermined distribution”.

The Office Action indicates that the element “enriching the received data around a deviation of the mean of the received data using a predetermined distribution” is shown at §III, p. 5/10, col. 2, lines 13-15, “... the measurements are noisy with known (or experimentally determined) variances”. This is interpreted in the Office Action as “variances from a predetermined –experimentally or otherwise—distribution.” The context of the cited language from Gorp et al., is with respect to noise within the measurements, not for enriching the data. Further, the next sentence following the citation to Gorp et al., describes the grid forming concepts, and does not describe enriching received data around a deviation of the mean of the received data using a predetermined distribution as claimed.

Since at least one element of claim 1 is not shown or described in the reference, a proper prima facie case of anticipation has not been established, the rejection should be withdrawn.

Claims 3-11 and 15 depend from claim 1 and are believed to distinguish the reference for at least the same reasons.

Claims 18 through 28 and 32 recite the same element, “enriching the sparse data around a deviation of the mean of the received data using a predetermined distribution”, and thus distinguish the reference for at least the same reasons as claim 1.

§103 Rejection of the Claims

Claim 2 was rejected under 35 USC § 103(a) as being obvious over Hassoun, “Artificial Neural Networks”, 1995 in view of Gorp et al. This rejection is respectfully traversed. Claim 2 depends from claim 1 which is believed allowable. Claim 2 should be allowable for at least the same reasons.

Claims 35-42 and 44 and claims 45-55, 58-59 and 62 were rejected under 35 USC § 103(a) as being unpatentable over Jakominich et al. in view of Gorp et al. This rejection is respectfully traversed. Claims 35-42, 44, 45-55, 58-59 and 62 all describe enriching received data around a deviation of the received data using a predetermined distribution. Since neither

reference, alone or combined describe or suggest such an element, a prima facie case of obviousness has not been established, and the rejection should be withdrawn.

Claim Objections

Claims 12, 14, 16, 17, 29, 31, 33, 34, 43, 44, 56, 59, 60, 61 and 62 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 09/899,424

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Title: DISTRIBUTION THEORY BASED ENRICHMENT OF SPARSE DATA FOR MACHINE LEARNING

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Dkt: H0002101-0760 US



Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6972 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 13th day of January, 2006.



Name



Signature